

**INITIAL STATEMENT OF REASONS FOR
PROPOSED BUILDING STANDARDS OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION (CBSC)**

**REGARDING THE 2016 CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

BSC 02-16

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS:

(Government Code Section 11346.2(b)(1))

For Items 1-4, the following applies:

The California Building Standards Commission (CBSC) is proposing to amend the 2016 *California Plumbing Code* (CPC) to align with the California Energy Commission's Title 20 Appliance Efficiency regulations and other amendments proposed in the California Green Building Standards Code (*CALGreen*). These provisions will aid in the reduction of potable water use and add clarity for the code user.

For Items 5-10, the following applies:

The California Building Standards Commission (CBSC) is proposing to add appropriate sections to the code that require the installation of recycled water supply systems for newly constructed nonresidential buildings. Pursuant to AB 2282 (Gatto, Chapter 606, Statutes of 2014), which added Section 18940.6 to the Health and Safety Code, the legislature mandated that CBSC, along with the Department of Housing and Community Development (HCD) and other interested parties, research, develop, and propose for adoption mandatory recycled water infrastructure standards during the 2016 Intervening Code Adoption Cycle. This would result in the installation of recycled water supply systems in new nonresidential construction. CBSC conducted research during several precycle workshops, in consultation with HCD, DWR, State Water Resources Control Board (SWRCB), public water systems, recycled water producers/purveyors, product manufacturers, local building officials, apartment and other rental property owners, California-licensed contractors, the building industry, water research associations, and other interested parties, and developed standards for recycled water supply systems for both indoor and outdoor use (water closets, urinals, trap primers for floor drains and floor sinks, aboveground and subsurface irrigation, industrial or commercial cooling or air conditioning and other allowed uses). The scope and application of these proposed standards are limited to within a local jurisdiction that has feasible and cost-efficient access to a water recycling facility, or that has been identified within a planned service area with a specific implementation timeline for recycled water. These proposed amendments reflect the statutory mandate and the feedback received during the research phase of the precycle workshops. As such, CBSC proposes to adopt and amend Chapters 1, 2, 6, 15, and 16. Pursuant to AB 2282, these proposed building standards must be consistent with the recycled water use criteria specified in Chapter 3 (commencing with Section 60301.100) of Division 4 of Title 22 of the California Code of Regulations. These provisions will aid in the reduction of potable water use. CBSC's proposed amendments are in alignment with similar proposals made by HCD and the Department of Water Resources, and are consistent with the California Water Action Plan 2016 Update.

ITEM 1. CBSC proposes to amend Chapter 2 as follows:

Agency Statement:

CBSC proposes to adopt a new definition for "hybrid urinals" in Chapter 2 Definitions of the 2016 *California Plumbing Code*.

Rationale:

CBSC proposes to adopt the above referenced definition. The term “hybrid urinal” is used in CBSC’s new proposal in Section 412.1.3.1 and Tables 610.3 and 702.1. The proposed definition is consistent with the definition in *CALGreen*.

Benefit:

The proposed amendment provides benefit to the code user by providing clarity and consistency between the CPC and this similar code language for hybrid urinals found in *CALGreen*. Additionally, constancy between the residential and non-residential codes will be maintained as HCD is proposing similar amendments in the CPC for residential occupancies.

ITEM 2. CBSC proposes to amend Chapter 4, Section 408.0 Showers, Sections 411.0 Water closets & Section 412.0 Urinals

408.2.1 Single Showerhead.

408.2.2 Multiple Showerheads Serving One Shower.

411.2.3.1 Flushometer Valve Activated Water Closets.

412.1.3.1 Hybrid Urinals.

Specific Purpose:

CBSC proposes to amend Sections 408.2.1 and 408.2.2 for showerhead flow rates and clarify the acronyms for flush volume for water closets. Additionally, a new code section is being added for hybrid urinals.

Rationale:

CBSC proposes to amend the existing flow rates for both single and multiple showerheads by changing the flow rates from 2.0 gallons per flush to 1.8 gallons per flush. This amendment is needed because Title 20 Appliance Efficiency regulations enacted a more restrictive standard for showerheads and set the flow rates at 1.8 gallons per minutes for showerheads sold or installed on or after July 1, 2018. With this in mind, CBSC needs to align the mandatory requirements in CPC with the Appliance Efficiency Regulations in Title 20 during this intervening code cycle which also takes effect on July 1, 2018, to avoid a conflict between Titles 20 and 24 of the California Code of Regulations.

CBSC proposes to clarify the acronyms for Flushometer Valve Activated Water Closets by repealing the acronyms “pf” because these acronyms are already spelled out in the code section. This amendment is editorial in nature and no substantive and is consistent with similar code language in subsections. Additionally, this amendment is consistent with similar amendments being proposed by HCD.

CBSC proposes to incorporate language clarifying that hybrid urinals, where approved for installation, shall be considered nonwater urinals. Hybrid urinals are third party tested by the International Association of Plumbing and Mechanical Officials (IAPMO) R&T lab and certified and listed by IAPMO R&T to the product standards. Hybrid urinals have received a full Uniform Plumbing Code (UPC) listing showing compliance with all standards and minimum provisions of the Uniform Plumbing Code. The hybrid urinals meet the new ASME A112.19.19 standard which was updated with all new testing protocol for hybrids. These hybrid urinals operate as nonwater urinals, but are connected to a water line. The hybrid urinals are able to use a water hook-up for the purpose of flushing, but do not require water to do so. Like nonwater urinals, they rely on gravity to bring fluids down into the filter system; but use the water supply line at regular intervals to rinse the inside of the urinal bowl. This proposed amendment for hybrid urinals is already codified in the 2016 *CALGreen* code and will provide constancy by adding it to the CPC. The amendment is editorial in nature and non-substantive. Additionally, this amendment is consistent with similar amendments being proposed by HCD.

Benefit:

This proposed code change aligns with existing Appliance Efficiency regulations adopted by the California Energy Commission, thereby avoiding a conflict between Titles 20 and 24 of the California Code of

Regulations. These changes will also help the regulated community to understand the new mandatory requirements approved by the commission in response to ongoing drought conditions, thereby protecting the health and safety of California's residents. Additionally, the proposed amendments are intended to provide clarity and consistency between the CPC and the *CALGreen* code for similar proposed code amendments.

ITEM 3. CBSC proposes to amend Chapter 6 as follows:

TABLE 610.3 WATER SUPPLY FIXTURE UNITS (WSFU) AND MINIMUM FIXTURE BRANCH PIPES SIZES

Specific Purpose:

CBSC proposes to amend the above referenced Table 610.3 to add hybrid urinals to the list.

Rationale:

CBSC proposes amend Table 610.3 to add in the branch pipe sizing and water supply fixture unit (WSFU) and minimum fixture branch pipe sizes values for the hybrid urinals as provided in Section 412.1.3.1.

The hybrid urinal has been added to Table 610.3 to account for the intermittent 1 gallon per cycle drain cleansing action by assessing 1 WSFU rating to the fixture table. The drain cleansing action emits a 1 gallon cleansing action in approximately 20 seconds or approximately 3 gallons per minute when cleansing cycle is activated.

Benefit:

This proposed code change provides consistency between the proposed changes to sections 412.1.3.1 and respective Table 610.3. The addition of the table accounts for drain cleansing action and sets the standard for the WSFU which benefits the code user in implementing regulations for hybrid urinals when specified for us in nonresidential applications.

ITEM 4. CBSC proposes to amend Chapter 7 as follows:

TABLE 702.1 DRAINAGE FIXTURE UNIT VALUES (DFU)

Specific Purpose:

CBSC proposes to amend the above referenced Table 702.1 to add hybrid urinals to the table.

Rationale:

CBSC proposes to add in trap and trap arm sizing and drainage fixture unit (DFU) values for hybrid urinals as provided in Section 412.1.3.1. The hybrid urinal has been added to Table 702.1 to account for the intermittent 1 gallon per cycle drain cleansing action by assessing 1 DFU rating to the fixture table. The drain cleansing action emits a 1 gallon cleansing action in approximately 20 seconds or approximately 3 gallons per minute when cleansing cycle is activated.

Benefit:

This proposed code change provides consistency between the proposed changes to sections 412.1.3.1 and the respective Table 702.1. The addition of the table accounts for drain cleansing action and sets the standard for the DFU which benefits the code user in implementing regulations for hybrid urinals when specified for us in nonresidential applications.

ITEM 5. CHAPTER 1, ADMINISTRATION, DIVISION I, CALIFORNIA ADMINISTRATION

Agency Statement:

CBSC proposes to amend **Section 1.2.1 BSC** to include subsections **1.2.1.1 State building** and **1.2.1.2 Enforcement**, which were incorrectly adopted as subsections of Section 1.2.2 and are being relocated for clarity.

CBSC proposes to amend **Section 1.2.3 BSC-CG** to clarify that the banner, when used to indicate CBSC's amendments regarding gray water systems, applies to all nonresidential occupancies for which no other state agency has authority, pursuant to Health and Safety Code Section 18941.8. CBSC is also renumbering **Section 1.2.2 Alternate Materials, Design, and Methods of Construction and Equipment** to Section 1.2.3 and its subsections, which were codified and published incorrectly in the 2016 edition of the code.

Rationale:

CBSC's amendments to this section clarify existing authority for nonresidential gray water systems and also implements elements of AB 2282 (specifically, CBSC's amendments to Section 1501 and 1502). The renumbering of specified sections is an editorial amendment for clarity within the code.

ITEM 6 – CHAPTER 2, DEFINITIONS

Agency Statement:

CBSC proposes to amend existing definitions, and adopt new definitions, in Chapter 2 of the 2016 California Plumbing Code. CBSC also proposes to replace the **BSC** banner with **BSC-CG** to clarify applicability to graywater standards, consistent with the amendments to Item 1 above.

Section 205.0

Complex System [BSC-CG].

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 206.0 *Disinfected Tertiary Recycled Water.*

Rationale: This term is used in the existing CPC definition for "Reclaimed (Recycled) Water", but is not defined. CBSC is proposing this new definition to clarify that disinfected tertiary recycled water meets applicable recycled water use criteria pursuant to Title 22.

Section 206.0 *Disposal Field [BSC-CG].*

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 207.0 *Enforcing Agency [BSC, BSC-CG].*

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency. It should be noted that this amendment applies to both the BSC and BSC-CG banners.

Section 209.0 *Graywater [BSC-CG].*

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 209.0 *Gray Water System [BSC-CG].*

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 211.0 *Irrigation Field [BSC-CG].*

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 215.0 Mulch Basin [BSC-CG].

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 217.0 On-Site Treated Nonpotable Water [BSC-CG].

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 220.0 Rainwater [BSC-CG].

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 220.0 Rainwater Catchment System [BSC-CG].

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 220.0 Receiving Landscape [BSC-CG].

Rationale: This is an editorial amendment to show the BSC-CG banner, which reflects BSC's authority for graywater building standards for all nonresidential occupancies not regulated by another state agency.

Section 220.0 Reclaimed (Recycled) Water. [BSC-CG]

Rationale: In 2014 the California Department of Health (CDPH) – Division of Drinking Water was transferred under the State Water Resources Control Board (SWRCB), including all authority for the recycled water use criteria regulations contained within Title 22 of the California Code of Regulations. CBSC is amending this existing definition to align with this transfer of authority from CDPH to SWRCB.

Section 220 Recycled Water Supply System.

Rationale: Recycled Water Supply System is not defined in the CPC. This new definition aligns with the model code definition for "Water Supply System" (for potable water). This new term is used in BSC's amendments to the CPC included herein.

ITEM 7 – CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

Agency Statement:

CBSC proposes to adopt and amend existing exceptions, and add a new exception, in Chapter 6 of the 2016 California Plumbing Code, in alignment with HCD and DWR, for the purpose of implementing AB 2282 as noted in the ISOR general statement. CBSC also proposes to adopt Section 601.3.3 and correct a minor error in the existing CPC.

Rationale:

Section 601.2 Hot and Cold Water Required.

Exceptions

- CBSC is adopting Exception 1 to align with HCD and DWR.
- Similar to HCD's existing Exception 3, which points to Chapter 16A for the allowance of recycled water, CBSC is adopting a new Exception 4 that allows the use of alternate water sources as an exception to potable water, as specified in Chapter 15 of the CPC.
- CBSC is co-adopting DWR's existing Exception 4, which allows public agencies to require recycled water for toilet and urinal flushing, and renumbering it Exception 5.

601.3.3 Alternate Water Sources.

Rationale: CBSC proposes to adopt and amend Section 601.3.3 to remove the applicability to recycled water supply systems because the subject is addressed in Chapter 15, Section 1503.7, consistent with DWR. CBSC also proposes that "WATER" be deleted after "RAINWATER" as redundant [in the

identification requirements for rainwater systems in (4)]. The duplicate “water” did not appear in the 2013 CPC and may be a typo in the 2015 model code and 2016 CPC.

ITEM 8 – CHAPTER 15, ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS (Sections 1501 and 1502)

Agency Statement:

CBSC is proposing amendments to Section 1501 and 1502 relative to alternate water sources.

Specific Purpose:

The purpose of these amendments is to implement the requirements of AB 2282 (for the development of mandatory recycled water infrastructure building standards) in alignment with HCD and DWR.

Intent.

Rationale: This intent language is adopted by both CBSC and HCD. For purposes of implementing AB 2282, CBSC is proposing a clarifying amendment to this nonregulatory language.

Section 1501.1 Applicability

Rationale: CBSC proposes to amend this section, repealing an existing California amendment because it is included in model code language addressing applicability. There is no intended change in regulatory effect.

1501.2 System Design

Rationale: CBSC is adopting and amending this section to add the phrase: “Recycled water supply systems shall be designed by a person licensed to perform plumbing design work.” Section 1613A.0 (D) of Chapter 16A states to be acceptable, work must be performed by person registered or licensed. This amendment is consistent with DWR.

1501.3 Permit.

Rationale: CBSC proposes to amend the above referenced section as follows (consistent with HCD and DWR):

- CBSC proposes to incorporate the phrase “from the Authority Having Jurisdiction” from the model code, inadvertently omitted during the 2012 Triennial Code Adoption Cycle and consistent with Chapter 16A, Section 1615A.0.
- CBSC also proposes to relocate an existing California amendment pertaining to indoor gray water systems to Section 1504.2, addressing on-site treated nonpotable graywater systems. There is no intended change in regulatory effect.
- CBSC also proposes to clarify no changes shall be made to either water system without approval from the Authority Having Jurisdiction.
- CBSC proposes to change “a” to “its” for clarity, and to correct the spelling of “premise” to “premises.”

1501.5 Maintenance and Inspection

Rationale: CBSC proposes to adopt and amend the above referenced section. This California amendment helps direct the code user to the Table 1501.5 if there are no other options available. CBSC is also proposing to repeal “Enforcing Agency” and add “Authority Having Jurisdiction” for clarity and consistency.

CBSC also proposes a new Exception to 1501.5 to reference the parallel code in Section 1503.15 dealing with recycled water, consistent with DWR.

1501.6 Operation and Maintenance Manual

Rationale: CBSC proposes to amend Section 1501.6 to add requirements for recycled water systems and references to applicable Chapter 15 sections: 1503.2 and 1503.15, in coordination with HCD and DWR language.

1501.7 Minimum Water Quality Requirements

Rationale: CBSC proposes to repeal the existing California amendment in the above referenced section and relocate the amendment to Section 1504.10.2. CBSC proposes to incorporate and identify a new separate section for recycled water in Section 1503.14, consistent with HCD and DWR.

1501.10 Signage

Rationale: CBSC is proposing this new section as a renumbered heading to reference the appropriate subsections for onsite treated nonpotable graywater (1501.10.1, 1501.10.2, and 1501.10.3) and recycled water (1503.12), consistent with DWR.

1501.10.1 Commercial, Industrial, Institutional, and *Residential* Restroom Signs.

Rationale: CBSC is amending the above referenced section as follows:

- Renumber Section 1501.10 as 1501.10.1 as a subtitle of Signage, consistent with DWR.
- Delete references to recycled water in Section 1501.10.1. Section 1501.10 references the parallel code in Section 1503.12 dealing with signage for recycled water, consistent with DWR.
- Amend to incorporate the phrase “Signs shall comply with applicable requirements of the California Building Code” which was inadvertently omitted during the 2015 Triennial Code Adoption Cycle, consistent with HCD.
- Revise an existing California amendment to eliminate redundancy and delete the specific reference to nonpotable graywater, consistent with HCD.

1501.10.2~~1~~ Equipment Room Signs.

Rationale: CBSC proposes to amend the above referenced section as follows:

- CBSC proposes renumber Section 1501.10.1 as 1501.10.2 as a subtitle of Signage, consistent with DWR.
- CBSC proposes to delete references to recycled water in Section 1501.10.2, as this language is being relocated to Section 1503.12.
- CBSC proposes to add references in Section 1501.10.2 to reference the parallel language in Section 1503.12 dealing with signage for recycled water.

1501.11 Inspection and Testing.

Rationale: CBSC is proposing to adopt and amend the above referenced section, adding a new exception that directs code users to the reclaimed (recycled) water system requirements in Section 1503.13 and consistent with HCD and DWR. CBSC also proposes the addition of a comma in the first paragraph of Section 1501.11.

1501.11.1 Supply System Inspection and Test.

Rationale: No proposed changes, shown for clarity and context only.

1501.11.2 Cross Connection Inspection and Testing.

Rationale: CBSC proposes to amend the above referenced section as follows:

- Repeal the reference to Section 1501.11.2.4, which is not adopted by CBSC, and correcting the range of sections from 1501.11.2.1 through 1501.11.2.3 (consistent with HCD).
- CBSC is also adding a new note to direct the code user to cross-connection inspection and testing requirements for recycled water plumbing systems in Section 1503, and also including a reference to compliance with applicable regulations in Title 22, Section 60316.

1501.11.2.1 Visual System Inspection.

Rationale: CBSC is adopting this section without amendment.

1501.11.2.2 Cross-Connection Test.

Rationale: CBSC proposes to amend the above referenced section as follows:

- The proposed amendment modifies text to specify when a cross-connection test is performed and that it may be performed by someone other than just the applicant.

- CBSC proposes to change “and” to “or” to allow the test to be performed in the presence of a delegated authority, or the Authority Having Jurisdiction.
- CBSC proposes changes to Item (5). CBSC proposes to clarify that during the initial cross-connection test, when an alternate water source may not yet be available, a temporary connection to potable water may be used to verify the integrity of the system.

1501.11.2.3 Discovery of Cross-Connection.

Rationale: CBSC proposes to amend the above referenced section as follows (consistent with HCD):

- CBSC proposes to eliminate text “in the presence of Authority Having Jurisdiction” because not all Items (1) through (7) need to be done in the presence of the Authority Having Jurisdiction.
- CBSC added the necessary language in Item (1) to notify the Authority Having Jurisdiction of the cross connection.
- In Items (2), (3) and (5) adding “and its premises” helps clarify that piping may need to be shut down on the premises of the building, e.g. landscapes, if it has an alternate water source.

1501.12 through 1501.14

Rationale: CBSC is adopting these sections without amendment.

1502.3 Connections to Potable and Reclaimed (Recycled) Water Systems.

Rationale: CBSC proposes to amend the above referenced section as follows:

- CBSC proposes to add Section 1502.3 to Chapter 15 to clarify the intent of Section 1613A.0 (A) in Chapter 16A to protect the water quality of the water supply. The proposed language specifically addresses untreated graywater systems, and connections to recycled water and the need to protect the treated recycled water supply from the untreated and unregulated graywater system supply. The air gap requirement provides the protections and follows the language found in the 2015 UPC model code. DWR language is intended to provide consistent and clearer format and requirements across 1502.3, 1503.4, 1504.4, and 1602.4.
- CBSC also proposes to add Subtitle “Exception” to clarify there are two exceptions. Exception (2) is added to parallel language in 1504.4 allowing a temporary connection to a potable line for testing purposes prior to connection to an untreated graywater source system.

ITEM 9 – CHAPTER 15, ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS

1503.0 Reclaimed (Recycled) Water Systems.

1503.1 General.

Rationale: CBSC proposes to amend the above referenced section as follows:

- Amend Section 1503.1 to specify reclaimed (recycled) water systems “receiving reclaimed (recycled) water from a water/wastewater utility” to clarify that the source of recycled water is treated at a municipal city with licensed operators, consistent with language relocated from Chapter 16A, Section 1613A.0 (A) by DWR.
- New “Notes 1-4” are added to provide more specificity to recycled water uses, allowed structures permit grantor, and applicability of the 1501 code section to recycled water, consistent with DWR.

1503.1.1 Scope Nonresidential.

Rationale: CBSC proposes to adopt the above referenced section, which incorporates statutory requirements enacted by Assembly Bill 2282 (Gatto, Chapter 606; Statutes of 2014). AB 2282 mandates CBSC to research, develop, and submit for adoption mandatory building standards for the installation of indoor and outdoor recycled water supply systems for newly constructed nonresidential buildings during the 2016 Intervening Code Adoption Cycle.

This mandate is limited to areas within local jurisdictions that have feasible and cost-efficient access to a water recycling facility, or areas where recycled water is within a planned service area and a specific implementation timeline for the provision of recycled water has been identified.

CBSC is currently proposing building standards which, if approved, will require all newly constructed nonresidential buildings, where disinfected tertiary recycled water is available from a municipal source to a nonresidential building site, to be provided with a recycled water supply system allowing for use of reclaimed (recycled) water.

During precycle workshops in consultation with HCD, DWR, State Water Resources Control Board (SWRCB), public water systems, recycled water producers/purveyors, product manufacturers, local building officials, apartment and other rental property owners, California-licensed contractors, the building industry, water research associations, and other interested parties, CBSC researched and developed standards for recycled water supply systems for both indoor and outdoor use (water closets, urinals, trap primers for floor drains and floor sinks, aboveground and subsurface irrigation, industrial or commercial cooling or air conditioning and other allowed uses).

CBSC proposes the following exceptions for recycled water supply systems:

(1) if the recycled water being delivered is being used for potable purposes.

(2) if the cost to bring recycled water is not cost efficient and/or feasible. A note provides additional discretionary authority for local agencies to further reduce the geographical area of mandate. This may apply to the recycled water purveyors who may not have enough recycled water supply to provide to new developments and/or if the recycled water purveyors cannot guarantee uninterrupted service. This was a concern brought up by our Recycled Water Purveyors in our stakeholder meetings. Some of the smaller Recycled Water Purveyors may need to shut down services or interrupt services provided to customers for a day or two. However, these service providers only service landscape areas in which they are able to notify customers beforehand when their service will shut down. This would not be acceptable to customers who use recycled water to flush toilets or urinals.

(3) a dual plumbed system will not be required in the landscape area where disinfected tertiary recycled water is available.

1503.2 Permit.

Rationale: CBSC proposes to adopt and amend the above referenced section, adding new language that directs the local enforcing agencies to consult with specified parties. Also added is a reference to Water Code, Division 7, Chapter 7, Article 7, which has information and requirements for recycled water, consistent with HCD. This section also replaces a duplicate provision in Section 1615A.0, which DWR intends to repeal.

1503.2.1 Plumbing Plan Submission.

Rationale: CBSC is adopting this section without amendment.

1503.3 System Changes.

Rationale: CBSC is adopting this section without amendment.

1503.4 Connections to Potable or Reclaimed (Recycled) Water Systems.

Rationale: CBSC proposes to amend the above referenced section as follows:

- Add Section 1503.4 to Chapter 15 to clarify the intent of Section 1613A.0 (A) in Chapter 16A to protect the water quality of the water supply. The proposed language specifically addresses recycled water systems, and connections to potable water and the need to protect it from the treated recycled water system supply. It also addresses protections for treated recycled water systems from connections to the lesser quality alternative water system supplies. The air gap requirement provides the protections and follows the language found in the UPC model. CBSC language is intended to provide consistent and clearer format and requirements across 1502.3, 1503.4, 1504.4, and 1602.4 (consistent with DWR).
- Add Subtitle "Exception" to clarify there are three exceptions. Exception (2) is added to parallel language in 1504.4 allowing a temporary connection to a potable line for testing purposes prior to connection to a recycled water source system. Exception (3) is added to state that recycled water can be used as makeup water for other alternative sources but only through an air gap (consistent

with DWR).

1503.5 Initial Cross-Connection Test.

Rationale: CBSC proposes to adopt and amend the above referenced section as follows:

- DWR proposes to delete references to recycled water in Section 1501.11.2 and to add references to Section 1503.13.2.2.
- Change “the” to “an” to allow for additional testing as necessary, and changing “and” to “or” to allow for delegated authority as determined by the local agencies (editorial amendments for clarity, consistent with HCD and DWR).

1503.6 Reclaimed (Recycled) Water System Materials.

Rationale: CBSC proposes to adopt this section without amendment.

1503.7 Reclaimed (Recycled) Water System Color and Marking Information.

Rationale: CBSC proposes to adopt and amend the above referenced section as follows:

- Add Section 1503.7 to Chapter 15 to replace Section 1617A.0 through 1617A.2 in Chapter 16A, consistent with DWR.
- Add “All mechanical equipment, including control valves, appurtenant to reclaimed (recycled) water systems shall be painted purple or composed of purple material matching Pantone color No. 512, 522C or equivalent” to provide clarity on proper marking of recycled water systems and components, consistent with DWR.
- Add “and non-metallic” to explain that the pipes can be marked with tape as well, consistent with DWR.
- Minor edits to improve clarity and to define minimum water quality, consistent with DWR.

1503.8 Valves.

Rationale: CBSC proposes to adopt the above referenced section without amendment.

1503.8.1 Valve Seals.

Rationale: CBSC proposes to add Section 1503.8.1 to Chapter 15 replace Section 1619A.0 (E) in Chapter 16A.

Section 1503.8.1 is consistent with the language in Chapter 16 A which deals with seals on the valves. CBSC proposes to add instructions for the maintenance log to explain the reason the valves seals were broken and to explain why the recycled water system had been accessed. CBSC proposes to add a new sentence requiring a record of broken seals in maintenance log (consistent with DWR).

1503.8.2 Valve and Appurtenance Access Door Signs.

Rationale: CBSC proposes to add Section 1503.8.2 to Chapter 15 replace Section 1619A.0 (D) in Chapter 16A. Chapter 16A section deals with valve access door signs. It provides information on sign placement location, letter-size, and background color. This Section 1503.8.1 is consistent with the language in Chapter 16A except the size of the letters has decreased from 1/2 inch to 3/8 inch (consistent with DWR).

1503.9 Hose bibbs.

Rationale: CBSC proposes to adopt and amend the above referenced section as follows (consistent with DWR):

- Add Section 1503.9 to Chapter 15 replace Section 1618A.0 (A) in Chapter 16A.
- Add additional details to the Chapter 16A language including exceptions.
- Edit the UPC language for brevity.
- Delete and add text to match Chapter 16A and the HCD more restrictive terms against hose bibbs. Note that Title 22 prohibits hose bibbs in public areas.

1503.9 Figure.

Rationale: CBSC proposes to adopt the above referenced figure into the 2016 CPC without amendment.

1503.10 Required Appurtenances.

Rationale: CBSC proposes to adopt the above referenced section with amendments as follows:

- Add “and the premises” to make clear to code users the appurtenances may be on the landscape recycled water supply system (consistent with HCD and DWR).
- Delete “for deactivation or drainage” and add “testing” to match the Chapter 16A language.
- Strike reference to Section 1501.11.2 and replace with Section 1503.2, specific to recycled water.
- These amendments replace those in Chapter 16A, Section 1618A.0 (B).

1503.11 Same Trench as Potable Water Pipes.

Rationale: CBSC proposes to adopt and amend the above referenced section as follows:

- Add Section 1503.11 to Chapter 15 replace Section 1618A.0 (C) in Chapter 16A.
- Add: “For piping within the premises downstream of the potable and reclaimed (recycled) water meters, reclaimed” to clarify that the code refers only to water supply pipes belonging to the building owner and located on the premises. There are other codes for municipal water supply pipes in the streets (consistent with DWR).
- Correct the minimum horizontal separation distance required from 60 inches (5 feet) to 48 inches (4 feet).

1503.12 Signage.

Rationale: CBSC proposes to add Section 1503.12 Signage to Chapter 15 replace Section 1619A.0 (A) Signs in Chapter 16A. CBSC proposes to rename this section Signage to be consistent with code in Section 1501.10 dealing with signage for alternative water supplies. CBSC proposes to add text referencing the various codes for recycled water signage (consistent with DWR).

1503.12.1 Commercial, Industrial, Institutional, and Residential Restroom Signs.

Rationale: CBSC proposes the new section above as follows (consistent with DWR):

- Add Section 1503.12.1 to Chapter 15 to replace Section 1619A.0 (A) in Chapter 16A.
- The proposed language addresses signage in all restrooms (Similar language is found in Section 1501.10.1 for alternative water supplies except recycled water).

1503.12.2 Tank-Type Toilets.

Rationale: CBSC proposes to add Section 1503.12.2 to Chapter 15 to replace Section 1619A.0 (C) in Chapter 16A.

The proposed language addresses signage inside the water reservoir of tank type toilets, states the presence of recycled water and warns against using it for an emergency supply. This proposes code indicates sign placement (inside the tank of toilets), sign text, and sign material. Because this is an existing requirement being relocated from Chapter 16A into Chapter 15, there is no intended change in regulatory effect (consistent with DWR).

1503.12.3 Equipment Room Signs.

Rationale: CBSC proposes to add Section 1503.12.3 to Chapter 15 to replace Section 1619A.0 (B) in Chapter 16A. The proposed language addresses signage inside valve access doors which warn of the presence of recycled water for those working on the plumbing. This proposed code indicates sign placement, sign text, and letter size. Because this is an existing requirement being relocated from Chapter 16A into Chapter 15, there is no intended change in regulatory effect (consistent with DWR).

1503.12.4 Outdoor Signs.

Rationale: CBSC proposes to add Section 1503.12.4 to Chapter 15 to conform to Title 22, §60310(g) outdoor signage. Title 22 specifies using the international do not drink symbol (Fig. 601), consistent with other Plumbing Code signage in Section 601 (consistent with DWR).

1503.13 Inspection and Testing.

Rationale: CBSC proposes to adopt and amend Section 1503.13 to replace Section 1620A.0 (A) in Chapter 16A (consistent with DWR).

1503.13.1 Supply System Inspection and Test.

Rationale: CBSC proposes to add Section 1503.13.1 to Chapter 15 to replace Section 1620A.0 (A) and 1620A.0 (B) in Chapter 16A. CBSC is proposing to adopt the 2015 UPC Section 1501.11.1 which provides clear direction and no changes in protocol. The 2016 CPC language adds the option to change the protocol with the words “and/or as required by the Authority Having Jurisdiction”. CBSC’s intent is to protect health and safety by maintaining protocol, consistent with DWR.

1503.13.2 Cross-Connection Inspection and Testing.

Rationale: CBSC proposes to add Section 1503.13.2 to Chapter 15 to replace Section 1620A.0 (B)(2) in Chapter 16A. CBSC is proposing to adopt the 2016 CPC Section 1501.11.2 with replacing alternate water supply with recycled water supply, as follows (consistent with DWR):

- First sentence is edited to make explicit that the initial inspection and test must be performed before initial operation of the recycled water system.
- Second sentence clarifies that the summary of the cross-connection test in this sentence applies not only to the initial test, but any subsequent test. This section does not require any subsequent tests, but annual inspections and 4-years tests are required in the following sections. Also, a cross-connection test is required every 4 years for condominiums by Water Code 13553(d)(1)(C).
- Third sentence clarifies that Sections 1503.13.2.1 through Section 1503.13.2.4 apply not only to the initial test but also any subsequent test.
- The reference to CA-NV AWWA is drawn from Title 22, §60316(a).
- Paragraph (1): The requirement for a written report is from Title 22, §60316(a).
- Paragraph (2): The criteria for material reason are from Chapter 16A, §1620A.0(B).

1503.13.2.1 Visual System Inspection.

Rationale: CBSC proposes to add Section 1503.13.2.1 to Chapter 15 to replace Section 1620A.0 (B)(1) in Chapter 16A and to be consistent with Section 1501.11.2.1 for alternative sources in Chapter 15. CBSC proposes to add text in the first paragraph which specifies that the visual inspection occurs before the cross-connection test and that the test is performed by the Authority Having Jurisdiction. Paragraphs (1) through (4) are carried over from Chapter 16A, Section 1620A.0 (B)(1) (i)- (iv) (consistent with DWR).

1503.13.2.2 Cross-Connection Test.

Rationale: CBSC proposes to add Section 1503.13.2.2 to Chapter 15 to replace Section 1620A.0 (B)(2) in Chapter 16A, consistent with DWR, as follows:

- Paragraphs (3) The first sentence in Paragraph (3) is edited to be parallel to Paragraph (8) and to be consistent with Chapter 16A language.
- Paragraph (4) is added from Chapter 16A. This makes Paragraphs (3) and (4) parallel to (8) and (9).
- Paragraphs (2) & (7): CBSC is using the 2015 UCP minimum time greater than or equal to 1 hour.
- Paragraph (9) – new (10): replaced “which” to “that” for clarity.
- CBSC is maintaining the requirement for a cross-connection test is required at least every 4 years per 1501.11.2.4 and Title 22, Section 60316. A cross-connection test is required every 4 years for condominiums by Water Code 13553(d)(1)(C).
- It is CBSC’s intent that a cross-connection test or at least a visual inspection be required if any potable or nonpotable system alteration has occurred or a valve seal is broken and this becomes known to officials, rather than waiting for the annual inspection or physical evidence of a problem to occur for an assessment (per 1501.11.2.4 and 1501.11.2(2)).

1503.13.2.3 Discovery of Cross-Connection.

Rationale: CBSC proposes to add Section 1503.13.2.3 to Chapter 15 to replace Section 1620A.0 (B)(3) in Chapter 16A and is consistent with Section 1501.11.2.3 for alternative sources in Chapter 15. Number (1) is new proposed language to notify the Authority Having Jurisdiction upon discovery. This notification language allows the Authority to be notified and schedule a cross-connection test, while allowing others to shut down the water system preventing further cross-connection flow. This is consistent with Chapter 16A

language. Current language in 1501.11.2.3 requires the Authority to be present for all the steps, and may cause delays in shutting down the system (consistent with DWR).

1503.13.2.4 Periodic Inspection.

Rationale: CBSC proposes to add Section 1503.13.2.4 to Chapter 15 to replace Section 1620A.0 (B)(2) in Chapter 16A, consistent with DWR, as follows:

- The section was renamed to Periodic Inspections for sites where conditions require less frequent visual inspections. Visual inspections every year and cross-connection tests every 4 years in buildings is currently required in Section 1620A.0(B)(2) (b) and (c), and for outdoor landscape irrigation at individual residences in the California Code of Regulations, Title 22, Section 60316(a).
- The allowance for alternate testing requirements is incorporated from 1620A.0(B)(2).
- The allowance for substituting Authority Having Jurisdiction is incorporated from Section 1620A.0(B)(2).
- The requirements for periodic visual inspections and cross-connection testing for other outdoor landscape irrigation is a new requirement to provide better protection against cross-connections and misuse and is based on current practice in several agencies.

1503.14 Minimum Water Quality Requirements for Reclaimed (Recycled) Water (BSC-CG).

Rationale: CBSC proposes to add Section 1503.14 to Chapter 15 to replace Section 1614A.0 in Chapter 16A. In addition, the proposed language includes edits to improve clarity and to define minimum water quality. These amendments are consistent with HCD and DWR.

1503.15 Maintenance and Inspection.

Rationale: CBSC proposes to add Section 1503.15 to Chapter 15 to be consistent with Sections 1501.5 and 1501.5.1 in Chapter 15 of the 2015 UPC as well as from Sections 1501.5 and 1501.5.1 in Chapter 15 of the 2016 CPC edited from the text for alternative water supplies and replacing “Enforcing Agency” with “Authority Having Jurisdiction”. Additional proposed language deals with recycled water supply systems to improve clarity and to define maintenance protocol. The text relating to recycled water systems in Section 1501.5 for all alternative water sources has been relocated to Section 1503 for clarity because requirements for recycle water systems differ from other alternative sources (consistent with DWR).

1503.15.1 Method and Frequency.

Rationale: CBSC proposes to add Section 1503.15.1 to Chapter 15 to be consistent with Sections 1501.5 and 1501.5.1 in Chapter 15 of the 2015 UPC edited from the text for alternative water supplies. Proposed language deals with recycled water supply systems to improve clarity and to define minimum maintenance frequency (consistent with DWR).

1503.15.2 Maintenance Log.

Rationale: CBSC proposes to add Section 1503.15.2 to Chapter 15 to be consistent with Section 1501.5.2 in Chapter 15 of the 2015 UPC edited from the text for alternative water supplies. Proposed language deals with recycled water supply systems to improve clarity and to define record keeping for the recycled water system. Text facilitates periodic visual inspections to determine if cross-connections or other improper plumbing changes have occurred (consistent with DWR).

TABLE 1503.15

Rationale: CBSC proposes to add Table 1503.15 to Chapter 15 to be consistent with Table 1501.5 in Chapter 15 of the 2015 UPC edited from the text for alternative water supplies. Proposed language specifies the frequency of testing, inspection, and maintenance with recycled water supply systems to improve clarity and to define record keeping for the recycled water system (consistent with DWR).

1504.0 On-Site Treated Nonpotable Water Systems.

1504.2 Plumbing Plan Submission.

Rationale: CBSC proposes to amend the above referenced section, adding a California amendment which has been relocated from Section 1501.3. There is no intended change in regulatory effect.

1504.4 Connections to Potable or Reclaimed (Recycled) Water Systems.

Rationale: CBSC proposes to adopt and amend the above referenced section to clarify the intent of Section 1613A.0 (A) in Chapter 16A to protect the water quality of the water supply. The proposed language specifically addresses on-site treated nonpotable gray water systems, and connections to recycled water and the need to protect the treated recycled water supply from the less regulated on-site treated nonpotable gray water system supply. The air gap requirement provides the protections and follows the language found in the UPC model code. CBSC language is intended to provide consistent and clearer format and requirements across 1502.3, 1503.4, 1504.4, and 1602.4, consistent with DWR.

CBSC also proposes to add Subtitle "Exception" to clarify there are two exceptions. Exception (2) is added to parallel language in 1504.4 allowing a temporary connection to a potable line for testing purposes prior to connection to an on-site treated nonpotable graywater source system (consistent with DWR).

1504.10.2 Minimum Water Quality.

Rationale: CBSC proposes to amend the above referenced section, which was relocated and amended since it is not necessary now that model code addresses it.

ITEM 10 – CHAPTER 16, NONPOTABLE RAINWATER CATCHMENT SYSTEMS

1602.4 Connections to Potable or Reclaimed (Recycled) Water Systems.

Rationale: CBSC proposes to add Section 1602.4 to Chapter 16 to clarify the intent of Section 1613A.0 (A) in Chapter 16A to protect the water quality of the water supply. The proposed language specifically addresses untreated rainwater systems, and connections to recycled water and the need to protect the treated recycled water supply from the unregulated rainwater system supply. The air gap requirement provides the protections and follows the language found in the UPC model. CBSC language is intended to provide consistent and clearer format and requirements across 1502.3, 1503.4, 1504.4, and 1602.4.

CBSC also proposes to add Subtitle "Exception" to clarify there are two exceptions. Exception (2) is added to parallel language in 1504.4 allowing a temporary connection to a potable line for testing purposes prior to connection to a rainwater source system (consistent with DWR).

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:

(Government Code Section 11346.2(b)(3))

For Items 1-4, reference documents relied upon are as follows:

1. 2015 Appliance Efficiency Regulations. July 2015.
<<http://www.energy.ca.gov/2015publications/CEC-400-2015-021/CEC-400-2015-021.pdf>>

For Items 5-10, reference documents relied upon are as follows:

1. AB 2282, (Gatto, Chapter 606, Statutes of 2014)
http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB2282

Pursuant to AB 2282 (Gatto, Chapter 606, Statutes of 2014), CBSC, in consultation with HCD, DWR, and other public and private entities, conducted the research and development of these regulations during several precycle stakeholder workshops. The cost of compliance, water savings, and other impacts of the regulations cite information obtained from stakeholders, including data provided by the State Water Resources Control Board, Plumbing Manufacturers International, and Irvine Ranch Water District). These documents relied upon are included with CBSC's rulemaking.

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS:

(Government Code Section 11346.2(b)(1))

California's building standards codes have historically been a mix of performance and prescriptive provisions and reference standards. **Regarding Items 1-4**, the proposed code changes will update existing prescriptive

standards for showerhead flow rates specified in the California Plumbing Code, and will be consistent with Title 20 Appliance Efficiency Standards.

Regarding Items 5-10, the installation of recycled water supply systems references existing prescriptive standards as specified in the California Plumbing Code, and are consistent with the recycled water use criteria in Title 22 of the CCR. CBSC is statutorily required to adopt by reference model building codes, which contain prescriptive standards. Prescriptive standards provide the following: explicit guidance for certain mandated requirements; consistent application and enforcement of building standards while also establishing clear design parameters; and ensure compliance with minimum health, safety, and welfare standards for owners, occupants, and guests. Performance standards are permitted by state law; however, they must be demonstrated to the satisfaction of the proper enforcing agency.

CONSIDERATION OF REASONABLE ALTERNATIVES

(Government Code Section 11346.2(b)(4)(A))

Regarding Items 1-4, the modifications that CBSC is proposing during this intervening cycle are intended to align with the mandate contained Title 20 Appliance Efficiency Standards for nonresidential showerhead flow rates. Because these regulations seek to simply align with the Appliance Efficiency regulations in Title 20 of the California Code of Regulations, which are mandatory statewide, no alternative to this responsive action was considered.

Regarding Items 5-10, the modifications that CBSC is proposing during this intervening cycle are intended to implement the mandate contained within AB 2282, which requires consistency with the recycled water use criteria contained in Title 22 of the California Code of Regulations. As such, no alternatives to this regulation were considered.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.

(Government Code Section 11346.2(b)(4)(B))

Regarding Items 1-4, no alternatives were identified to lessen the adverse impact on small business. These proposed amendments are necessary to align with current laws and regulations found in Title 20 and the CALGreen code.

Regarding Items 5-10, no alternatives were identified to lessen the adverse impact on small business. Elements of this proposal that are new to the code or are made more stringent have been thoroughly vetted through stakeholder outreach and have been justified to implement the statutory mandate contained within AB 2282, which only impacts new construction in jurisdictions that have access to recycled water from a purveyor.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS.

(Government Code Section 11346.2(b)(5)(A))

Regarding Items 1-4, CBSC has determined that this regulatory action would have no significant adverse economic impact on California business enterprises and individuals, including the ability of California businesses to compete with businesses in other states. These regulations may result in an expansion of businesses in the water industry, including (but not limited to) plumbing product manufacturers, plumbing contractors, purveyors, etc.

Regarding Items 5-10, CBSC has determined that this regulatory action would have no significant adverse economic impact on California business enterprises and individuals, including the ability of California businesses to compete with businesses in other states. These regulations may result in an expansion of businesses in the recycled water industry, including (but not limited to) product manufacturers, plumbing contractors, recycled water purveyors, etc.

ASSESSMENT OF EFFECT OF REGULATIONS UPON JOBS AND BUSINESS EXPANSION, ELIMINATION OR CREATION

(Government Code Sections 11346.3(b)(1) and 11346.5(a)(10))

The CBSC has assessed whether or not and to what extent this proposal will affect the following:

- ☐ **The creation or elimination of jobs within the State of California.**
The expanded use of dual piping could increase the number of jobs in the recycled water industry, including (but not limited to) plumbing contractors, product manufacturers, water purveyors, enforcement officials, etc.
- ☐ **The creation of new businesses or the elimination of existing businesses within the State of California.**
New businesses in the building, plumbing, manufacturing, and recycled water industries may be created resulting from these regulations.
- ☐ **The expansion of businesses currently doing business with the State of California.**
Various plumbing stakeholders including (but not limited to) plumbing product manufacturers, plumbing contractors, private recycled water producers, etc., could see an expansion in business resulting from these regulations.
- ☐ **The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.**
These regulations will aid in the reduction of potable water use for indoor and outdoor applications, as required by AB 2282 (Chapter 606, Statutes of 2014). This will improve the health and welfare of California residents and elements of the State's environment that have been adversely affected by the historic drought.

ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS

(Government Code Section 11346.2(b)(5)(B)(i))

Regarding Items 1-4, these regulations will likely result in the following:

- The estimated cost for compliance is negligible. There are plenty of products in the market that meet or exceed the proposed showerhead flow rate standard and there are multiple manufacturers that currently manufacture showerheads that meet the standard. Showerheads are available at a variety of price points and ranges in cost may be due to a number of factors including style or functional design. There is no direct correlation between the showerhead flow rates and the cost of the product.
- No increased cost of compliance for those regulations that make technical, non-substantive or clarifying changes.
- Benefits include; reduction of potable water use for indoor applications.
- This will improve the State's environment that have been adversely affected by the historic drought.
- Protection of the environment and limited resources.
- General welfare of California residents.

Regarding Items 5-10, these regulations will likely result in the following:

- No increased cost of compliance for those regulations that make technical, nonsubstantive or clarifying changes.
- Increased cost of compliance for regulations that require the installation of recycled water supply systems. However, the benefit of providing the groundwork for water conservation will preserve natural resources and likely outweighs the cost impact.
- Ensure the protection of public health and safety, worker safety and the environment.
- Promotes the general welfare of California residents.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

(Government Code Section 11346.2(b)(6))

This section does not apply because CBSC is not a department, board, or commission within the Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal.